

Experiment 1

Date :

HISTORY TAKING AND GENERAL EXAMINATION

History taking is the most important skilled part of clinical examination.

It comprises of-

Biodata- it includes name, age, gender, occupation history and address.

Presenting complaints- these are the primary reason for seeking medical help.

Allow the patient to speak about their presenting complaints in their own words.

Note them in chronological order. All symptoms are not necessarily of equal diagnostic importance.

History of present illness- it includes, mode of origin- slow or sudden onset, order in which symptoms appeared, and its progression. Ask for any treatment received. Enquire about any associated features pertaining to the symptoms observed.

Past history- history of any other illness in the past or trauma or surgery.

Personal history- marital history, any drug history or substance abuse- smoking, alcohol etc.

Family history- history of chronic illness in the family like Diabetes, Hypertension, Asthma, cardiac diseases malignancy. Unnatural deaths in family, if any.

Suggested scheme for basic history taking

1. Name, age, occupation, country of birth.
2. Main presenting problem
3. Past medical history
4. Specific past medical history- eg- DM, jaundice, TB etc
5. History of main presenting complaint
6. Family history
7. Occupational history
8. Personal history- smoking, alcohol, allergies
9. Drug and treatment history
10. Direct questions about bodily systems not covered by the presenting complaint.

GENERAL EXAMINATION

* Biological data

1. Name:- Mahesh
2. Age:- 19
3. Sex:- ~~Male~~ Female
4. Occupation:- Student.
5. Address:- men's Hostel,
Trivandrum Medical College

* History taking

6. Presenting complaints:- None
7. History of presenting illness:- None
8. Past History:- None.
9. Family History:- None

* General Examination

10. Height:- ~~15~~ 150cm
11. Weight:- 43kg.
12. BMI = 19.1 kg/m^2 .
13. Build and Nourishment:- Moderately build
& moderately nourished.
14. Pallor → No pallor.
15. Icterus:- No icterus
16. Cyanosis → No cyanosis
17. Clubbing:- No clubbing
18. Lymphadenopathy:- No lymphadenopathy
19. Edema:- No edema
20. Skin, hair & Nails:- Normal

GENERAL EXAMINATION

A General Examination of the subject should be done before proceeding to the proper examination of any system. The bio-data should be collected, which comprises the name, age, sex, occupation and address.

While doing the general examination the following points should be noted. Any gross abnormality present should be noted.

1. Build and nourishment

Note the height, weight and musculature and note whether the person is well built and nourished, moderately built and nourished or ill built and malnourished.

2. Pallor

Look for the presence of pallor in the lower palpebral conjunctiva and oral mucous membrane, tongue, nailbeds, palms & soles. Anemia is defined as a reduction in the hemoglobin content and /or RBC Count of blood for the age and sex of the individual.

3. Icterus

Look for any yellowish discoloration of the sclera of the eye. The upper eyelid is elevated and the subject is asked to look down. Jaundice is the yellowish discoloration of skin, sclera & mucous membrane of the body due to increased level of bilirubin in extra cellular fluid. It is easily detected in the sclera.

4. Cyanosis

Cyanosis is the bluish discoloration of skin and mucous membrane due to increased concentration of deoxyhemoglobin above 5gm% in capillary blood. Cyanosis is of two types – Central and peripheral cyanosis.

Central cyanosis is due to reduction in PO₂ in arterial blood. This can result from defective central oxygenation of blood as in (1) pulmonary disorders like pulmonary fibrosis, pulmonary oedema, emphysema, bronchiectasis, etc. (2) cardiac disorders like congenital cyanotic heart disease, congestive cardiac failure, etc. Central cyanosis, if present can be noted in the mucous membrane of tip of tongue, and lips. The extremities are warm.

Peripheral cyanosis is usually due to stagnation of blood in the peripheral capillaries leading to increased extraction of oxygen from hemoglobin. It is seen in conditions like exposure to cold, shock, venous obstruction, congestive cardiac failure. Peripheral cyanosis can be detected by looking at the nail beds, ear lobes, fingertips or tip of nose. The extremities are cold.

5. Clubbing

It is obliteration of the angle between the base of the nail and adjacent skin, due to hyperplasia of subungual soft tissues in cases of hypoxia. In extreme cases, the whole finger is swollen and drum stick shaped. Hence the name clubbing. Clubbing is usually seen in the congenital cyanotic heart diseases, subacute bacterial endocarditis, suppurative lung diseases (eg. Bronchiectasis, empyema) and lung cancer. Schamroth's window test: normally, when thumb nails are placed in apposition, there is a lozenge-shaped gap. In clubbing, there is a reduction in this gap.

6. Lymphadenopathy

Palpate and look for any enlargement of the cervical, axillary, epitrochlear, popliteal and inguinal groups of lymph nodes. Generalized lymphadenopathy is seen in conditions like lymphatic leukemia and Hodgkin's disease.

* VITAL SIGNS

Q1. Pulse

Rate:- 70 beats/min

Rhythm:- Regular

Volume:- Normal volume

Character:- Normal

Tension:- Normal

Condition of vessel wall:- Not palpable
other peripheral pulsations:-

Normal and felt equally
on both sides

Radiofemoral delay:- NO radiofemoral

Blood pressure:- NOT Recorded, ^{delay}

Q2. Respiration

Rate:- 16/min

Rhythm:- Regular

Type:- ~~Thoracic~~ abdominal & thoracic

Q3. Body temperature:- ~~Normal~~ 37°C (axillary)

REPORT:-

The general examination of the
~~patient~~ ^{subject} appears to be normal

7. Oedema

Look for oedema in the subcutaneous tissue of the extremities. Oedema may be detected by observing the glossy appearance of the skin. If sustained finger pressure is applied using thumb against a bony prominence (Shin of tibia, medial malleolus, sacrum) for at least 30 seconds and then the finger is suddenly withdrawn, pitting may be noticed.

Oedema is the swelling of tissue due to accumulation of fluid in interstitial spaces.

Pitting edema occurs in CCF and hypoproteinemia.

In congestive cardiac failure, oedema of the dependent parts of the body may be noted ie. The feet in an ambulant patient preferably medial malleolus and the presacral region in a recumbent patient. Oedema of the periorbital region is seen acute nephritis and nephrotic syndrome.

Nonpitting edema occurs in hypothyroidism and filariasis.

8. Skin & Hair

Hair - Colour, texture and distribution of hair should be noted.

Skin - Look for Petechiae, hypo - pigmentation or hyper pigmentation.

Vital Signs

9. Pulse

It is the expansile impulse transmitted along the arteries; due to the ejection of blood from left ventricle to partially filled aorta, which is transmitted along the vessel wall into the peripheral arteries. The features of the pulse to be noted are :

- a) Rate : how many pulse per minute
- b) Rhythm : the regularity with which one pulse follows the other
- c) Volume : the amplitude of expansion of vessel wall.
- d) Character : is the wave form of the pulse (Normal is catacrotic)
- e) Condition of vessel wall - whether thickened or not
- f) Radio-femoral delay : whether there is any time lapse between the two.
- g) Other peripheral pulsations :

10. Blood Pressure :

The B.P. is noted in recumbent and erect postures on the right upper limb.

11. Respiratory rate :

Place the right palm over the upper part of the abdomen of the subject and count the number of respirations in one minute. Also note the rhythm and type of respiration.

12. Body temperature :

Body temperature is measured using clinical thermometer. Usually the oral temperature is measured. The subject is asked to hold the thermometer under the tongue, gently supported by the lips for one minute. The procedure should not be done immediately after taking hot or cold drinks. In unconscious patients and in children, either axillary temperature or rectal temperature can be taken.

In addition to above mentioned points, the following also should be specially noted if relevant.

Eye		along with cardiovascular and respiratory system
Thyroid		
Dyspnoea		
Skeletal deformities		
Neurocutaneous markers		along with central nervous system.
Tuft of hair on low back		
Short neck		
Thickened peripheral nerves		

Report:

Proforma

History taking

1. Biodata - Name, age, occupation, address
2. Presenting complaints
3. History of present illness
4. Past history
5. Personal history
6. Family history

General Examination

Built and nourishment

Height and weight —cms — kg — BMI

Pallor

Icterus

Cyanosis

Clubbing

Lymphadenopathy

Oedema

Skin and hair

Vital signs

Pulse

Rate

Rhythm

Volume

Character

Condition of vessel wall

Radio-femoral delay

Other peripheral pulsations

Blood pressure:/..... mmHg arm.....position

Respiration

Rate

Rhythm

Type

Body temperature

Report:

In cases of atrial fibrillation, the pulse rate counted at the wrist will be less than the heart rate. This difference is referred to as pulse deficit. This is detected by simultaneous checking of pulse rate and heart rate by 2 persons.

(b) Rhythm : is the regularity with which one beat follows the other. Irregularity is unequal spacing of beats. Note whether the rhythm is regular or irregular. If it is irregular, note whether irregularly irregular or regularly irregular.

Regularly irregular pulse eg:- Extra systole

Irregularly irregular pulse eg:- in atrial fibrillation

(c) Character : this is studied by palpation of the right carotid pulse. It is the pulse closest to heart and least subject to damping and distortion in the arterial tree. It is best felt with thumb pressing backwards at the medial border of right sternomastoid at the level of thyroid cartilage. Never palpate carotid on both sides simultaneously because it will occlude blood supply to brain.

Character of pulse is affected mainly by wave form and to lesser extent by volume. A normal arterial pulse tracing has an upstroke and down stroke. On the peak there is the percussion wave followed by a tidal wave and dicrotic notch on the down stroke. In certain diseases, character of the pulse is detectably abnormal. The most important of these are as follows.

(i) Slow rising pulse or anacrotic pulse

This is typically a small volume pulse with a late systolic peak. This is seen in aortic stenosis.

(ii) Collapsing or water hammer pulse or Corrigan pulse

This is characterized by rapid upstroke and descent of the pulse wave. It occurs most often in aortic regurgitation.

(iii) Bisferiens pulse : is a combination of slow rising and collapsing pulse. This occurs when stenosis and incompetence are present.

(iv) Pulsus alternans when strong ventricular beats alternate with weak beats. It indicates severe left ventricular damage.

(d) Volume of the pulse : This gives a rough guide to the pulse pressure, which depends on stroke volume and the compliance of the arteries. Note whether the volume is normal, low or high and equal on both sides.

(e) Condition of vessel wall: palpate for the vessel wall. Normally it is not palpable, but in old age and atherosclerosis the vessel wall is palpable.

(f) Radio femoral delay / Brachiofemoral delay: Delay of the femoral pulse compared with the radial pulse. Found in coarctation of the aorta.

(g) Other peripheral pulsation : Whether they are normal and equal on both sides, i.e., superficial temporal, facial, carotid, brachial, ulnar, epigastric, femoral, popliteal, dorsalis pedis and posterior tibial pulsations.

(2) Measurement of Blood Pressure

The Blood Pressure is recorded by the sphygmomanometer by the palpatory and auscultatory methods and expressed in mm of Hg.

(3) The Jugular Venous pulse should be examined and the jugular venous pressure is measured. The right internal jugular vein reflects the right atrial pressure as it is directly in line with the right atrium.

Method of Examination

The subject is placed in propped up (sitting) position, with 45 degree inclination and the upper level of jugular pulse is noted. There should be good light. The neck should be supported so that the neck muscles, especially the sternomastoids, are relaxed. The veins normally show slight pulsation and three small wave can be distinguished during each cardiac cycle. The vertical height of the upper level of venous column from the sternal angle is taken as jugular venous pressure and is expressed in cm. jugular venous pressure is raised in right sided heart failure, superior venacaval obstruction, pregnancy.

Difference between arterial and venous pulsation in the neck:

Jugular venous pulse		Carotid pulse
Position – More lateral	-	More medial
Better seen than felt	-	Better felt than seen
Definite upper level present	-	No definite upper level
The level falls during inspiration	-	Not affected by respiration
Different wave seen	-	Single wave pattern
More wavy, less sharp	-	Sharp & expansile
Upper level rises with gentle abdominal pressure (Hepato jugular reflux)	-	No change during the procedure

Study the positive and negative waves in JVP and their causes.

(4) Examination of precordium

This is done in 4 steps:

1. Inspection
2. Palpation
3. Percussion
4. Auscultation

1. Inspection

(a) Size and shape of precordium

The precordium is the anterior aspect of chest, which overlies the heart. Look for any bulging or flattening of the precordium. Bulging or prominence of the precordium is seen in bronchogenic carcinoma (left side) left sided pleural effusion, pericardial effusion, and mediastinal tumors.

(b) Engorged veins over the chest wall

This is present in superior or inferior venacaval obstruction.

(c) Pulsations over the precordium

Apex beat or apical impulse: this should be looked for with the subject sitting up or lying down. It is the lower most and outermost point of precordium where a definite cardiac impulse can be best seen or felt. It is normally situated in 5th left intercostal space 1 cm medial to the mid clavicular line. Even in healthy adults, especially when recumbent, apex beat may be invisible. Other causes, are thick chest wall or when it is located behind a rib. It can also be due to pericardial effusion.

Displacement of the apex beat

1. In pleural effusion and pneumothorax the heart is pushed towards the opposite side and the beat is also shifted correspondingly.
2. Pulmonary fibrosis and collapse of the lung pulls the heart towards the same side.

3. Enlargement and hypertrophy of the left ventricle results in downward and outward shift of the apex beat.
 4. Dextro cardia : Apex beat is seen on the right side of the chest.
 5. In abdominal tumors, pregnancy and ascites, the apex beat is shifted upwards.
 6. Scoliosis : this is the commonest cause of shift of apex beat.
- Other pulsations in the chest wall

Pulsations may also be visible at the root of neck, in front of the chest and epigastrium.

1. Suprasternal pulsations are visible in
 - 1) Thin persons
 - 2) High aortic arch
 - 3) Aneurysm of arch of aorta
 - 4) Anemia
 - 5) Thyrotoxicosis
2. In the neck
 - (a) Carotid pulsations are prominent
 - (1) Anxious or agitated patients
 - (2) Hypertension
 - (3) Aortic regurgitation
 - (b) Jugular venous pulsation

already mentioned
3. Epigastric pulsation in
 - (1) Thin nervous persons
 - (2) Pulsatile liver in tricuspid regurgitation
 - (3) Aneurysm of abdominal aorta
4. Pulsations in the 2nd Left intercostals space

Pulmonary hypertension
5. Pulsation in the 2nd Right intercostal space
 1. Aortic incompetence
 2. Aneurysm of ascending aorta

II. Palpation

This is done to confirm the inspection findings and to get more details of the inspection findings. This can be done with the palm of the hand (palmar) or tip of finger (digital).

(a) **Apex beat position and extent** is confirmed by palmar and digital palpation and is a reliable index of enlargement or displacement of heart.

Character of the apex beat

1. Heaving apex beat : Aortic stenosis, systemic hypertension
Slow and sustained impulse
2. Forceful apex beat : less sustained Aortic regurgitation
3. Tapping apex beat : Mitral stenosis

(b) **Thrill** : is a palpable murmur. It is a vibratory sensation transmitted to the palpating hand through the chest wall from the heart or aorta and simulates the purring of a cat. It is associated with very loud murmur.

Timing is usually done with apex beat. Thrill along with apex beat is systolic.

(c) **Left parasternal heave** : This sign is present in right ventricular hypertrophy. This is felt by placing the ulnar aspect of the hand firmly over the precordium just to the left of the sternum when a definite lift is detected.

Look for other pulsations palpable over the precordium. Intercostal space and epigastrium, eg. The pulmonary artery can be palpated in the 2nd left intercostal space when it is dilated as in pulmonary hypertension.

III. Percussion

Percussion can make out gross enlargement or shift in position of the heart. It has been superseded by chest x ray or echocardiography.

To percuss the right border, first percuss out the upper border of the liver. Then percuss from the right axilla to the right sternal border in a line just above the liver dullness. The right border corresponds to the right sternal border from the third to the sixth intercostal space.

Left border is percussed from the 5th left intercostal space in the axilla to the area of apex beat. It corresponds to a curved line drawn from the apex to a point on the lower border of 2nd left costal cartilage one and half inches from the median plane.

In pericardial effusion and cardiomegaly the area of cardiac dullness is increased. In emphysema, the area of cardiac dullness is diminished.

IV. Auscultation

For the sake of auscultation, the precordium is divided into the following areas:

- (a) Mitral area – 5th left intercostal space 1 cm medial to the midclavicular line
- (b) Tricuspid area – lower end of the sternum to the left side
- (c) Aortic area – 2nd right intercostal space to the right of sternum
- (d) Pulmonary area – 2nd left intercostal space to the left of sternum

The first heart sound is longer, soft in quality and low pitched. It resembles the word 'lubb'. It is due to closure of AV valves. The 2nd heart sound is shorter, high pitched and sharp in quality. It resembles the word 'dubb'. It is due to closure of semi lunar valves.

The events in each area should be noted separately and reported. The events to be noted are first and second heart sound, their intensity, any additional sounds (III or IV) and presence of any abnormal sounds e.g. murmurs, opening snap, click, pericardial rub, third heart sound etc.,

S3 and S4 are low frequency sounds and are hence best heard with bell of stethoscope at cardiac apex.

Any split in the 1st or 2nd heart sound also is observed.

EXAMINATION OF CARDIOVASCULAR SYSTEM

A. BIODATA

B. GENERAL EXAMINATION-

C. EXAMINATION OF CVS-

1) **PULSE:** rate, rhythm, character, volume, condition of vessel wall, peripheral pulses and radiofemoral delay

2) **BLOOD PRESSURE:** Palpatory, Auscultatory

3) **JUGULAR VENOUS PRESSURE:**

4) **EXAMINATION OF THE PRECORDIUM:**

INSPECTION

- a. Shape of precordium- look for any bulging or flattening
- b. Apex beat
- d. Any dilated veins
- e. Any scars or sinuses

PALPATION

- a. Apex beat
- b. Left parasternal heave
- c. Any thrills

PERCUSSION-

- a. Left border
- b. Right border

AUSCULTATION

Mitral area:

Aortic area:

Tricuspid area:

Pulmonary area:

Report:

History taking

Biocdata:

Name: Naga Mahesh

Age: 19

Gender: Male

Occupation: Medical student

Address: ~~Leaves~~ ^{Ment's} Hostel,
Govt. Medical College, Trivandrum

HISTORY

Present illness: - Nil

Past history: - Nil

Personal history: - Nil

Family history: - Nil

GENERAL EXAMINATION

Build and Nourishment: - Moderately built,
Moderately nourished

Height and weight: - 150cm, 50kg

$$BMI = \frac{50}{(1.5)^2} = 22.2 \frac{kg}{m^2}$$

Pallor: - No pallor

Icterus: - No icterus

Cyanosis: - No cyanosis

Clubbing: - No clubbing

Lymphadenopathy: - No lymphadenopathy

Edema: - No edema

Skin, hair & Nails: - Normal in appearance

VITALS (CVS)

Pulse:-

- Rate — 71 beats/min
- Rhythm — Regular
- Volume — Normal
- Character — Normal

Condition of vessel wall — Not palpable

No radiofemoral delay

• Other peripheral pulsation — Normal

• Blood pressure — Not recorded

Jugular venous pressure — Not visible

~~Respiration~~ —

INSPECTION

a. Shape of precordium — Normal

b. Apex Beat — Not visible.

c. NO dilated veins.

d. NO scars and sinuses

PALPATION

Apex beat — Felt on the left 5th intercostal space medial to midclavicular line

b. No left parasternal heave

c. No Thrills.

PERCUSSION

a. Right border of Heart:- Right sternal margin

b. Left border of heart — On apex beat

AUSCULTATION

- a. Mitral - S_1 & S_2 heard with normal duration, NO murmurs heard
- b. Tricuspid - S_1 & S_2 heard with normal duration, NO murmurs heard
- c. Aortic - S_1 & S_2 heard with normal duration, NO murmurs heard
- d. Pulmonary area - "

REPORT:-

On examination, the cardiovascular system of the subject appears to be normal.

[Signature]

Experiment: 3

Date :

EXAMINATION OF RESPIRATORY SYSTEM

AIM

To examine and assess the functional status of the respiratory system.

REQUIREMENTS

Stethoscope, Measuring tape, torch

PROCEDURE

Note down the name, age, sex and occupation of the subject.

Expose the chest of the subject and seat him in a comfortable position.

GENERAL EXAMINATION: of the subject is done with special emphasis to dyspnoea, cyanosis, clubbing, pulse rate and respiratory rate.

EXAMINATION OF UPPER RESPIRATORY PASSAGES

Nasal Cavities: are examined for any discharge, congestion, deviated septum or any growth under proper light.

Throat and pharynx: are also observed for any congestion or growth.

EXAMINATION OF CHEST: this is done under 4 steps

INSPECTION

1. Position of trachea

2. Form and shape of the chest : is noted from the front, sides, back and above.

Look for any asymmetry, any bulge or depression in the chest.

Normal: Symmetrical, anteroposterior diameter less than transverse diameter.

Common abnormalities seen are:

Scoliosis : Asymmetry due to lateral bending of vertebral column

Kyphosis : forward bending of vertebral column

Pigeon Chest: Sternum is projecting forwards and is seen in rickets.

Barrel shaped chest: antero posterior diameter equal to or more than transverse diameter in chronic airway obstruction.

E.g. Bronchial asthma

3. Movements of chest

Observe from all sides whether chest movements are symmetrical or not, diminished in any part.

Observe the rate and rhythm of respiratory movements.

4. Look for the position of apex beat

5. Respiratory rate : Normal: 12-18/mt, regular.

Increase in rate – tachypnoea

Periodic breathing – irregular with periods of apnoea in between

See whether the movements are of thoracic, abdominal, thoraco abdominal or abdomino thoracic type.

6. Look for any dilated veins, visible pulsations, localised prominence / depression on the chest wall or intercostal edema.

PALPATION

1. **Position of trachea** : whether central or shifted to one side. This is assessed by placing the tips of index and ring fingers on the sterno clavicular joints and the tip of the middle finger on the cricoid cartilage. Slowly move the middle finger downwards over the trachea and see whether any deviation is present. A slight deviation to right may be found normally. Marked deviation to one side is present in fibrosis of apex of lung on that side.
2. **Apex beat** : is located by palpating with the palm of hand first, then with the ulnar border of palm and finally with index finger.

Normal: 5th left intercostal space half an inch medial to midclavicular line.

Apex beat is the lower most and outermost point over the precordium, where a definite cardiac impulse can be seen or felt. Shift in position of apex beat can occur in conditions like pleural effusion and pneumothorax. In Dextrocardia it is on the right side.

3. Movements of chest

Chest is grasped by putting two palms on the two sides of the chest and the tips of the thumb are allowed to meet just in the midline. Ask the subject to take a deep inspiration and observe the distance to which the tip of the thumb moves from the midline. Do it in the front and back and see whether movements are equal on both sides.

4. **Chest expansion**: is found out by noting the difference between chest circumference at the nipple level at the end of expiration and deep inspiration, using a measuring tape.
Normal 5-8cm.

5. **Respiratory rate, rhythm and type**: confirm by palpation

6. Vocal fremitus

The sound vibrations produced during phonation are transmitted through the lungs and can be felt by the palm placed over the chest wall. Use flat of the hand including fingertips as they are more sensitive than ulnar border of hand. This is tested while the subject repeats the words, 'one, one, one'. Compare vocal fremitus on corresponding parts on both sides of chest.

It is decreased in pleural thickening, pleural effusion, etc.

It is increased over consolidation and cavities.

PERCUSSION: Is done over symmetrical areas on both sides of chest. Supraclavicular, infraclavicular, mammary, inframammary, axillary, infraaxillary, suprascapular, interscapular and infrascapular areas are percussed and the resonance compared on both sides.

Percussion over air - resonance (normal)

Over soft tissue - dullness (consolidation, tumor)

Over fluid - stony dullness (pleural effusion)

While percussing on the back, ask the subject to keep his hands on the opposite shoulders and while percussing the axillary area ask him to keep his hands over the head.

Rules of Percussion

1. Pleximeter finger should be placed parallel to border of organ percussed.
2. Line of percussion should be perpendicular to the border of organ to be percussed.
3. Pleximeter finger should be placed firmly on the body surface.
4. Percuss from resonant to dull area.
5. During percussion movement should be at wrist only.

Auscultation

- Symmetrical area on both sides of chest in front and back are auscultated.

1. **Breath sounds: Breath sounds have intensity and quality.**

- a. Whether heard equally on both sides. Is intensity normal, reduced or increased?
- b. Quality = character of the sound, whether bronchial or vesicular. In vesicular breath sound, there is no distinct pause between end of inspiration and beginning of expiration. Bronchial breath sound: Harsh; higher frequencies are heard more clearly; expiratory sound has a more sibilant (hissing) character than inspiratory sound and lasts for most of the expiratory phase.

2. **Adventitious / added sounds**

Any rhonchi, crackles (fine crackles were called crepitations and coarse crackles were called rales), pleural rub or stridor. Rhonchi are musical sounds associated with airway narrowing. Widespread polyphonic wheeze, particularly heard in expiration occur in diffuse airflow obstruction in asthma and COPD. Crackles are short, explosive bubbling or crackling sounds produced by sudden changes in gas pressure related to the sudden opening of previously closed small airways. Crackles at the beginning of inspiration occurs in COPD. Crackles occur in pulmonary edema, bronchiectasis, pulmonary fibrosis, pneumonia etc. Pleural rub has a creaking or rubbing character. Stridor: caused by localized narrowing of larynx, trachea or large airways. The noise is often both inspiratory and expiratory. May be audible without stethoscope. On auscultation, usually loudest over trachea. Always indicates a serious condition requiring urgent treatment.

3. **Vocal resonance**

Vibrations during phonation can be heard by auscultation. Consolidated lung conducts sound better than normal lungs. So, in consolidation, Vocal resonance is increased and the sounds are louder & clearer. Ask the patient to repeat 'one-one' and auscultate the corresponding areas one by one on both sides.

EXAMINATION OF RESPIRATORY SYSTEM

1. Biodata and General Examination

2. Examination of Upper Respiratory Passages

1. Nasal Cavity – Look for congestion, deviated nasal septum or any growth

2. Throat and pharynx:

3. Examination of Chest

1. INSPECTION

- a. Position of trachea
- b. Form and shape of the chest
- c. Movement of the chest wall
- d. Apex beat
- e. Dilated veins and visible pulsations
- f. Respiratory Rate, Rhythm and type

2. PALPATION

- a. Position of trachea
- b. Apex beat
to midclavicular line
- c. Movement of chest
- d. Chest Expansion - _____ cm
- e. Respiratory rate
- f. Vocal fremitus

Area	Right	Left
Supraclavicular		
Infraclavicular		
Mammary		
Inframammary		
Axillary		
Infra Axillary		
Suprascapular		
Interscapular		
Infrascapular		

EXAMINATION OF RESPIRATORY SYSTEM

X BIO DATA

Name :- Naga Mahesh

Age :- 19 years

Sex :- Male

Occupation :- Student

Address :- Men's Hostel,
Govt Medical College, Trivandrum

X GENERAL EXAMINATION

Built and Nourishment - Moderately
built and nourished

Height - 150cm

Weight - 50kg

BMI - 22.2 kg/m²

No pallor → No pallor

No icterus → No icterus

Cyanosis :- No cyanosis

Clubbing :- No clubbing

Lymphadenopathy :- No lymphadenopathy

Oedema :- No oedema

Skin, hair and nails :- Normal

Dyspnoea - Absent

JVP - Not visible

No cough

X HISTORY TAKING

(write first)

3. PERCUSSION

- a. Direct percussion on Clavicle
- b. General Percussion

Area	Right	Left
Supraclavicular		
Infraclavicular		
Mammary		
Inframammary		
Axillary		
Infra Axillary		
Suprascapular		
Interscapular		
Infrascapular		

4. AUSCULTATION

- a. Breath sounds
- b. Added sounds
- c. Vocal resonance

Area	Right	Left
Supraclavicular		
Infraclavicular		
Mammary		
Inframammary		
Axillary		
Infra Axillary		
Suprascapular		
Interscapular		
Infrascapular		

REPORT

History of present illness - None
Past History - None
Family History - None

VITALS SIGNS

1. Pulse

Rate - 99/minute, Normal

Rhythm - Regular

Volume - Normal

Character - Normal

Condition of vessel wall - Normal

Radiofemoral delay - No delay

Other peripheral pulsation - Normal

Blood Pressure:-

- 120/80 mmHg.

- Right arm

- Sitting position

Respiration

Rate - 15/min, Normal

Rhythm - Regular

Type - Abdominothoracic.

Examination of Respiratory system

1. INSPECTION

Position of Trachea - central

Form and shape of chest - Normal,
Bilaterally symmetrical & elliptical.

- Movement of chest wall - Symmetrical
- Apex beat - Not visible
- No dilated veins or visible pulsations
- Respiratory Rate - 17/min

Rhythm - Regular

Type: Abdominothoracic.

II. Palpation:-

- Position of Trachea - central
- Apex beat (medial to midclavicular line) - Not palpable
- Respiratory rate - 17/min
- Movement of chest - symmetrical
- chest expansion - 5cm.

* Vocal Fremitus

AREA	RIGHT	LEFT
Supraclavicular	Normal	• Normal
Infraclavicular	Normal	Normal
Mammary	Normal	Normal
Inframammary	Normal	Normal
Axillary	Normal	Normal
Infraxillary	Normal	Normal
Suprascapular	Normal	Normal
Infrascapular	Normal	Normal
Interscapular	Normal	Normal

III. Percussion:- Percussion note equally resonant over all the corresponding areas except cardiac dullness

in left mammary and lower dullness
in right inframammary region

AREA	RIGHT	LEFT
Supraclavicular	Normal	Normal
Intraclavicular	Normal	Normal
Clavicular	Normal	Normal
Mammary	Normal	Dull note
Inframammary	Dull note	Dull note
Axillary	Normal	Normal
Infraxillary	Normal	Normal
Suprascapular	Normal	Normal
Inter scapular	Normal	Normal
Infrascapular	Normal	Normal

IV Auscultation:-

(a) Breath sound:- Normal vesicular breathing heard on all lung fields on both sides

(b) Vocal sound:- Normal and equal all over corresponding area.

(c) Added sound:- Nil

(d) Vocal Response *Resonance*

Area	Right	Left
Supraclavicular	Normal	Normal
Intraclavicular	Normal	Normal
Clavicular	Normal	Normal
Mammary	Normal	Normal
Inframammary	Normal	Normal
Axillary	Normal	Normal
Infraxillary	Normal	Normal
Suprascapular	Normal	Normal
Inter scapular	Normal	Normal
Infrascapular	Normal	Normal

EXAMINATION OF GASTRO INTESTINAL SYSTEM

METHODS OF EXAMINATION-

Examination of GI system is done in the following sequence:

1. History taking
2. General examination
3. Examination of upper GIT
4. Abdominal examination
5. Special examinations.

Examination of upper GIT

- a. Condition of teeth
- b. Health of tongue and oral mucous membrane
- c. Condition of tonsil and oropharynx

Examination of abdomen-

Abdominal landmarks- Abdomen is divided into nine quadrants by two transverse and two vertical lines. They are- epigastrium, right hypochondrium, left hypochondrium, umbilical, right lumbar, left lumbar, hypogastrium, right and left iliac.

Abdominal examination consists of the following steps-

Inspection

Palpation

Percussion

Auscultation

Inspection of abdomen-

Patient should lie on a couch in supine position with arms by his side.

Expose the abdomen fully. Clothing should be drawn till the xiphisternum and pulled below till the lower margin of pubic symphysis. Closely observe for following findings:

Shape:

- Normal- flat/slightly depressed
- Scaphoid- malnutrition, malignancy
- Fullness- is it generalized, localized or fullness in flanks

Umbilicus:

- Normal- slightly retracted and inverted
- Look for eversion/ hernia.

Movements of abdominal wall:

- With respiration(normal /absent/reduced.)
- Look for visible peristalsis and pulsations.

Report:- on examination, respiratory system of
subject appears to be normal

2-

Surface and skin of abdomen:

- Look for striae (purple striae, striae gravidarum), any scars, pigmentation, localized bulging or retraction.

Superficial veins:

- Observe in standing posture for any dilated veins.

Hernia orifices:

- Are the hernia orifices bulging with strain or coughing.

Palpation of abdomen-

The patient should lie on his back with legs semiflexed to relax the abdomen. Ask him to relax and breathe quietly.

Generally, palpation can be started from the left ileac region and then proceed anticlockwise to end in the suprapubic and umbilical regions.

First, palpation can be performed lightly; later deeper palpation can be performed. Note for the following-

Consistency (softness or rigidity)

Tenderness (observed from facial changes)

Guarding of abdomen in any particular region.

Then, palpate for liver, spleen and kidneys.

Palpation of liver-

Ask the patient to lie down on the couch with legs flexed. Expose the abdomen and place both hands side by side flat on the abdomen in the right subcostal region, lateral to rectus with fingers pointing to the ribs. Ask the subject to take a deep breath and at the height of inspiration, press the fingers firmly inwards and upwards. If resistance is encountered, move the hand further down till the resistance disappears.

If the liver is palpable, its margin is felt as a sharp regular border that rides beneath the fingers. Note the size of enlargement, surface, consistency and tenderness of liver.

Describe the size as palpable in centimeters below right costal margin in the midclavicular line, midaxillary line and midsternal line.

Palpation of spleen-

From the left subcostal margin, the spleen enlarges downwards the right ileac fossa. Hence spleen is palpated along an oblique line, starting from right ileac fossa towards left subcostal margin. Ask the subject to take deep breath and press deep with the fingers of the right hand. If the spleen is palpable, it touches the tip of the fingers with each inspiration. Palpate for consistency and tenderness.

Percussion of abdomen-

Normally a resonant (tympanitic) note is heard, except on the areas of liver and spleen enlargement and over a tumor, mass or fluid. Accumulation of excess gas yields a high tympanitic note. Since fluid first accumulates in the flanks, the areas of dullness on both sides resemble a horseshoe. Hence, it is called horseshoe dullness, which is confirmed by eliciting shifting dullness.

Shifting dullness- if presence of fluid is suspected, percussion should be performed first with patient lying on his back and then lying alternately on each side. While lying on one side, the upper flank will be resonant as the fluid is pushed down by gravity to the lower flank. Hence called shifting dullness.

Auscultation of abdomen-

Carried out by placing the diaphragm of stethoscope on different areas of abdomen. Auscultation detects bowel sounds (Normal- 3/minute), peristaltic rub and bruit.

PROFORMA

Examination of GI system-

- A. General examination
- B. Examination of upper GIT
- C. Examination of abdomen

Inspection-

Shape-

- Scaphoid/flat/distended
- Flanks (free/full)

Umbilicus-

- Position
- shape

Movement of abdominal wall

- Movement with respiration
- Visible pulsations
- Visible peristalsis

Skin and surface of abdomen

- Supine position- scars, striae, sinuses
- Head rising- divarication of recti
- Standing -dilated veins

External genitalia

- Cough impulse
- Genitalia normal

Palpation-

Superficial palpation

- Warmth
- Tenderness

Deep palpation

- a. Liver
- b. Spleen

Abdominal girth (In patients with ascitis at level of umbilicus)

Fluid thrill (present in ascitis)

Percussion- (Normal note resonant)

- Shifting dullness
- Liver dullness and span
- Spleen dullness & Traube's space

Auscultation-

- Bowel sounds

EXAMINATION OF GI TRACT (GASTROINTESTINAL)

I Data: - Vikas
Age: 19 year

Occupation: student
Address: Men's hostel
Govt. college Tum

II HISTORY TAKING

Past History: Nil
Personal History: Nil
Family History: Nil

III General Examination

Build & Nourishment: Moderately built & nourished

Height: 168 cm, Weight 62 kg BMI = 21.98 kg/m^2

No pallor

Icterus: Not present

Cyanosis: Not present

Clubbing: Not present

Lymphadenopathy: Not present

Oedema: Not present

Skin, hair, nail: Normal

Jugular venous pressure: Not visible

Dyspnoea: No dyspnoea.

ORAL CAVITY: Teeth: Normal & Healthy

Gums: Normal & Healthy

Tongue: Normal & Healthy

Tonsils: Normal & Healthy.

Oesophagus: Normal & Healthy

VITAL SIGNS:

Examination of GI system

PROFORMA

- Biodata & history taking
- General examination

A. Examination of upper GIT – oral cavity, teeth tongue, pharynx – normal

B. Examination of abdomen

Inspection-

- Shape of the abdomen - normal
 - o Scaphoid/flat/distended
 - o Flanks(free/full) - flanks free
- Position & shape of umbilicus- central & inverted
- Movement of abdominal wall with respiration - normal
- Any visible pulsations or peristalsis – no visible pulsations or peristalsis
- Any dilated veins (in supine or standing posture) – no dilated veins
- Skin and surface of abdomen - – normal
- Any divarication of recti on head raising – no divarication of recti

Palpation

- Any local rise in temperature – no local rise in temperature
- Any tenderness - no tenderness
- Liver, spleen, bilateral kidneys - not palpable

Percussion

- Normal tympanitic note heard on all quadrants
- Upper border of liver corresponds to ---IC space on the right side
- Lower border just below right costal margin
- Liver span = ---cm
- No dullness in the left hypochondrium and hypogastrium
- No shifting dullness or fluid thrill

Auscultation

- Bowel sounds heard normally 3/ mt
- No bruit

C. Examination of hernial orifices – normal, no impulse on coughing

D. Examination of external genitalia – not done

Report

1. Pulse :- Rate :- 72 beats/min

Rhythm :- Regular

Character :- Normal character

Volume :- Normal volume

Tension :- Normal Tension.

Condition of vessel wall :- Not palpable

Radiofemoral delay :- No radiofemoral delay

Peripheral pulsation :- Felt equally on both sides, all peripheral pulsation felt

Blood pressure :- Not recorded.

Respiratory rate :- 17/min

Rhythm :- Regular

Type :- Abdominothoracic.

Body temp :- Normal

↳ Examination of Abdomen

A) Examination of Upper GIT

Teeth :- Normal & Healthy

Gum :- Normal & Healthy.

Tongue :- Normal & Healthy

Tonsils :- Normal & Healthy

~~Oropharynx~~ ^{oropharynx} ~~esophagus~~ :- Normal & Healthy

B) Examination of Abdomen

↳ Inspection :-

1. Shape :- Normal, Abdominal contour - flat

2. Umbilicus - No fallness / distension
- Slightly retracted & inverted
- Centrally placed.

Movements of Abdominal wall :-

↳ With respiration :- Normal rise in abdominal wall during expiration & fall during expiration.

↳ Visible pulsations :- No visible pulsations

- ↳ Visible peristalsis: No visible peristalsis.
- ↳ Divarification of recti on head rising - No divarification of recti.

4. Skin & Surface of Abdomen.

- Distension: No distension.
- No linear marks, scars absent.
- Superficial prominent veins - No superficial prominent veins.
- Pigmentation: No pigmentation.

II PALPATION

* Local rise in temperature - No local rise in temperature.

Any tenderness: No tenderness.

Left kidney: Not palpable.

Spleen: Not palpable.

Right kidney: Not palpable.

Liver: Not palpable.

Gall bladder: Not palpable.

Urinary bladder: Not palpable.

III PERCUSSION

- Normal Tympanic note heard on all quadrants.
- Upper border of liver corresponds to 5th intercostal space on right side, lower border just below right costal margin.

1. Liver: dull over liver

2. Liver span = 12 cm

1. No dullness in left hypochondrium & hypogastrium.

3. Urinary bladder

• Shifting dullness: No shifting dullness
• Fluid thrill: No fluid thrill

IV AUSCULTATION

- 1. Bowel sounds :- Normal bowel sounds -
Normally 3/m 12
- 2. Vascular bruit - No vascular bruit
- 3. Examination of hernial orifices - Normal,
No impulse on coughing
- 4. Examination of external genitalia -
No E. disease

Report :-

AS system examination of subject
appears to be ~~normal~~ normal.

[Signature]